Fairness in Financial Contribution

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Health care systems are responsible for providing preventive, therapeutic and rehabilitation services (1). But, payments for this services must be according to ability to pay (2). Thus, the World Health Organization (WHO) developed the concept of Fairness in financial contribution (FFC) as a one of the three main goals of a health systems (3). Before we describe the FFC, we must first define the household's Capacity to pay (ctp_h). Household's Capacity to pay is defined as household's total expenditure (exp_h) minus household's subsistence expenditures (se_h) or household's food expenditure (fe_h) (if $se_h > fe_h$).

$$ctp_h = exp_h - se_h \quad \text{if: } se_h \leq fe_h$$

$$ctp_h = exp_h - fe_h \quad \text{if: } se_h > fe_h$$

The ratio of a household's out-of-pocket (OOP) payments for health to their capacity to pay is defined as the household financial contribution (HFC).

$$HFC = oopctp_h = \frac{oop_h}{ctp_h}$$

Finally, the FFC index formula is as follows:

$$FFC = 1 - \sqrt[3]{\frac{\sum_{h=1}^{n} w_h \left| oopctp_h - oopctp_o \right|^3}{\sum w_h}}$$

$$oopctp_o = \frac{\sum w_h oop_h}{\sum w_h ctp_h}$$

The range of FFC index is between 0 and 1. 1 represents the most fairness and 0 represents the most unfairness (4).

Fairness in financing contribution will be achieved if all households pay an equal share of their

capacity to pay for health. If HFC exceeds a certain threshold, catastrophic health expenditures (CHE) will be occurred. Based on WHO criteria, CHE occurs when out-of-pocket (OOP) payments for healthcare are more than or equal to 40 % of a household's capacity to pay (HFC>40%) (4). The lack of prepayment mechanisms for risk pooling and low household capacity to pay are the main factors that increase the possibility of the exposure to catastrophic expenditures (5).

Healthcare Financial Mechanisms

CHE is directly related to OOP and indicates the inappropriate health coverage. OOP is the most unfairness and regressive mechanism of healthcare financing without any risk pooling (3). The literature showed that every year, more than one hundred million people suffered from catastrophic health expenditures due to OOP payments, especially in developing countries (6). OOP payments are including medical direct, non-medical direct and indirect costs. The probability of the CHE increases when non-medical direct and indirect costs are taken into account (7).

The World Bank noted that, "By 2030, no one should fall into poverty because of out-of-pocket health care expenditures" (8). Also, World Health Day 2018 named as 'Universal Health Coverage: Everyone, Everywhere' (9). As a result, healthcare financing should be based on financial risk-protection mechanisms such as general taxation and social insurance. Studies showed that the coverage by health insurance reduces the probability of occurrence of CHE (10-14). However, Insurance can significantly increase the risk of incurring catastrophic health care expenditures through "moral hazard". Moral hazard defined as increases the rate of health care utilization due to lowering the cost of health care (15).

Capacity to Pay

Household income level is a key factor affect the capacity to pay that have an inverse association with CHE (16). Generally, Rural and poorer households are at higher risk of catastrophic health expenditures (16, 17). Studies showed that households with four or more members were less likely to experience CHE (13, 16, 18). The prevalence of CHE is higher in Households headed by older and unemployed people (10). Having the chronic illness among household members increase the likelihood of CHE. This factor affect the both of OOP and CTP (18).

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